COMBATING TERRORISM

Advance Planning
Briefing for Industry
February 17, 2009

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APBI Objectives

The Advanced Planning Briefing for Industry (APBI) is sponsored by the Combating Terrorism Technical Support Office (CTTSO). APBI provides representatives of industry, Government, entrepreneurs, and associated developers with a preview of the requirements that are identified for publication in the CTTSO annual Broad Agency Announcement (BAA). Attendees are encouraged to talk with contracts, program, and technical staff to ensure a full understanding of these requirements. This is the only opportunity for direct discussions regarding the solicitations.

Requirement descriptions are subject to change without notice; the BAA package supersedes all APBI information.

BAA Solicitation – A Three-Phased Approach

The BAA is implemented in three phases to minimize costs for submitters. Phase 1 requires a one-page Quad Chart that conveys the essence of the proposed solution for a single requirement. Phase 2 submissions are White Papers (not to exceed 12 pages) for accepted Phase 1 submissions. For accepted Phase 2 submissions, Phase 3 consists of a Full Technical Proposal (not to exceed 50 pages) and detailed cost information. *Phase 1 submissions can be selected for Phase 3 if funding is available and the mission priority warrants an accelerated process.*

BAA Announcement and Points of Contact

Finalized requirements are published in one annual BAA. The BAA is officially announced on the Federal Business Opportunities (FedBizOpps) website. The BAA package is published in BIDS at www.bids.tswg.gov. All responses to the BAA and submitter notifications including next phase submission requests are processed in BIDS. Questions regarding any BAA requirement shall be directed to the appropriate BAA contracting office. Questions and answers will be posted in BIDS under **FAQs**.

Navy Contracting Office: 09-Q-4554@tswg.gov

BAA Schedule

BAA Package published	**on or about** March 1 **
Quad Charts	due 30 days after publication date
White Papers	due as specified in the Acceptance e-mail
Full Proposals	due as specified in the Acceptance e-mail
Planned Awards	October 2009 → beyond

** REFER TO THE PUBLISHED BAA ON THE BIDS SITE FOR SPECIFIC DATES.

**Combating Terrorism Technical Support Office
Advanced Planning Briefing for Industry
Technology Requirements Briefings**

<u>**Morning Session**</u>

<u>TIME</u>	<u>PRESENTATIONS</u>	<u>RQTS</u>	<u>BRKOUT RM</u>
7:00	Registration		
8:00	Introduction		
8:10	BAA Process		Amphitheater Foyer
8:15	Technology Transition		Meridian B
8:30	Irregular Warfare Support (IWS)	11	Meridian B
8:50	Training Technology Development (TTD)	7	Continental C
9:05	Investigative Support and Forensics (ISF)	5	Continental C
9:20	VIP Protection (VIP)	5	Meridian C
9:35	Improvised Device Defeat (IDD)	3	Meridian E
9:45	Physical Security (PS)	1	Continental B
9:50	Blast Effects and Mitigation (BX)	2	Continental B
10:00	Tactical Operations Support (TOS)	5	Meridian C
10:15	Explosive Ordnance Disposal/Low-Intensity Conflict (EOD/LIC)	5	Meridian D
10:25	Explosives Detection (ED)	5	Oceanic B
10:40	Chemical, Biological, Radiological, & Nuclear Countermeasures (CBRNC)	5	Oceanic A
10:55	Surveillance, Collection, and Operations Support (SCOS)	2	Oceanic B
11:00	Closing Remarks		
	Breakout Rooms Remain Open Until Noon		
12:00	Meeting Adjourned		

Combating Terrorism Technical Support Office
Advanced Planning Briefing for Industry
Technology Requirements Briefings

Afternoon Session

TIME	PRESENTATIONS	RQTS	BRKOUT RM
12:00	Registration		
1:00	Introduction		
1:10	BAA Process		Amphitheater Foyer
1:15	Technology Transition		Meridian B
1:30	Surveillance, Collection, and Operations Support (SCOS)	2	Oceanic B
1:35	Chemical, Biological, Radiological, & Nuclear Countermeasures (CBRNC)	5	Oceanic A
1:50	Explosives Detection (ED)	5	Oceanic B
2:05	Explosive Ordnance Disposal/Low-Intensity Conflict (EOD/LIC)	5	Meridian D
2:15	Tactical Operations Support (TOS)	5	Meridian C
2:30	Blast Effects and Mitigation (BX)	2	Continental B
2:40	Physical Security (PS)	1	Continental B
2:45	Improvised Device Defeat (IDD)	3	Meridian E
2:55	VIP Protection (VIP)	5	Meridian C
3:10	Investigative Support and Forensics (ISF)	5	Continental C
3:25	Training Technology Development (TTD)	7	Continental C
3:40	Irregular Warfare Support (IWS)	11	Meridian B
4:00	Closing Remarks		
	Breakout Rooms Remain Open Until 5:00		
5:00	Meeting Adjourned		

Mission

The CTTSO mission is to rapidly field prototype solutions for combating terrorism (CbT) needs to meet evolving requirements defined by end users.

Structure

CTTSO operates under the auspices of the U.S. Department of Defense (DoD) Office of the Assistant Secretary of Defense for Special Operations/Low-Intensity Conflict and Interdependent Capabilities (SO/LIC & IC). DoD provides program management and execution as well as a major part of the program funding. The U.S. Department of State (DOS), the U.S. Department of Energy (DOE), the Department of Homeland Security (DHS), the Federal Bureau of Investigation (FBI), and other agencies contribute funds for projects of interest.

As a general rule, CTTSO is able to identify meaningful combating terrorism needs and satisfy them better and faster. Mission success is due in part to a broad base of Federal agency participation as well as operational requirements from the warfighters and end users. Government representatives from over 100 agencies actively contribute to the identification and selection of key CbT requirements to promote shared and multi-user solutions and prevent duplication of effort.

CTTSO regularly reviews current project status, assesses emerging threats, identifies new user requirements, and selects proposals for new research and development (R&D) projects to meet those requirements. This APBI forecasts the requirements anticipated for funding in Fiscal Year 2010 and advertised using a BAA.

CTTSO Programs

Currently, CTTSO oversees the following programs focusing on different aspects of the war on terror.

The **Technical Support Working Group (TSWG)** conducts national interagency research and development (R&D) identifying and addressing the high priority needs of the CbT community. The U.S. Department of State, Office of the Coordinator for Counterterrorism, provides sponsorship for this program. An Executive Committee provides program direction and is chaired by a DoD representative. DOS, DOE, and the FBI also have seats on the Executive Committee with DoD acting as executive agent. TSWG is divided into ten specific mission area subgroups each chaired by a leading agency representative. Every Federal organization associated with CbT is represented in at least one subgroup.

The **Explosive Ordnance Disposal/Low-Intensity Conflict (EOD/LIC**) program provides EOD technicians and Special Operations Forces (SOF) operators with the advanced technologies and mission-focused solutions required to address current and emerging threats presented by unconventional and asymmetric warfare.

The **Irregular Warfare Support (IWS)** program initiative began in 2006 to solve non-traditional problems encountered by joint, interagency, and international counterinsurgency efforts. The program uses innovative and integrated processes of operational analysis, capability design/development, and field experimentation in support of irregular engagement against identified threats to national security.

The **Human, Social, Cultural, Behavior Modeling** program satisfies interservice and interagency requirements for the development of analytical, planning, and training applications and environments that leverage interoperable human, social, and cultural behavior models.

What's New

CTTSO Organization

In an effort to optimize efficiency and CbT coverage in support of our end user community, CTTSO continually re-examines its structure. This year, organizational changes include support to the Human, Social, Cultural, Behavior Modeling Program.

Funding Projection

Project funding for the planned requirements in this BAA cycle is estimated at $75M – 90M for FY 2010 and FY 2011.

Websites

The CTTSO public websites maintain a strong focus on end user products with the aim of informing the CbT community of new technologies, as they become available. This past year the EOD/LIC and IWS websites were redesigned to incorporate the product focused structure and integrate with the CTTSO portal.

BIDS

Submitters can now add to or change the Comment field in their registration at any time.

All information contained in email, related to follow on submissions (if one is requested), is now saved as part of the submission record.

A "No-Bid" attachment upload is requested when submitters do not plan continued participation in the solicitation.

The BIDS website was restructured especially for submitters. **Doing Business with the Government** now steps potential awardees through the preliminary stages of preparing for potential contract award.

The **BIDS Submitter QuickCard 2009** update is available. See the PM Resources information table at APBI or download the PDF from the **BIDS Homepage** menu bar.

The Registration process has been modified and includes a **Registration Type** selection. Submitters *must* select the **Submitter** radio button to proceed with registration.

Introduced last year and refined this year, each BIDS Submission record requires the identification of data rights and human subject use in projects.

Frequently Asked Questions

What is a BAA?
The Broad Agency Announcement (BAA) is a competitive research and development contracting approach described in FAR Part 6 and Part 35. BAAs are used for the acquisition of basic and applied research; development not related to a specific system or hardware procurement; technologies that advance state-of-the-art or increase knowledge or understanding; and when proposals with varying technical and scientific approaches are anticipated. The primary difference between a BAA and other competitive procurements is that the submissions received for a BAA are evaluated on the submission's individual merits rather than against other submissions.

What is BIDS?
The BAA Information Delivery System (BIDS) is a secure web-based application designed to receive and process submitter responses to BAA requirements. Access the system at www.bids.TSWG.gov using a standard web browser.

Who can respond to a BAA?
The Government encourages *any* submitter with a potential solution to submit research concepts for consideration. This includes nonprofit organizations, educational institutions, small businesses, small disadvantaged businesses, Government laboratories, and Historically Black Colleges and Universities/other Minority Institutes (HBCU/MIs), and foreign contractors as well as large businesses.

How do I get the BAA Package and respond to the BAA?
BAA packages are posted to the BIDS website and can be downloaded by any visitor; however, to respond to a BAA requirement a *Submitter* registration is required.

Why do I need the BAA Package Instructions?
BAAs are a competitive procurement process; therefore, the ***guidelines in the BAA package must be followed to avoid disqualification.*** The *BAA Package* is posted to the BIDS website on or about March 1 of each calendar year. Packages provide detailed requirement descriptions as well as instructions for submittal preparation and upload in BIDS. Be sure to review all guidance; submissions for each phase must be in full compliance with all BAA instructions.

Is my company competition and proprietary information secure?
All data uploaded to BIDS is secure from public access and is encrypted site-to-site. All submissions are considered proprietary and source selection sensitive and must be protected accordingly. BIDS access for evaluation and processing is strictly controlled.

Who will see and evaluate my submission?
CTTSO intends to use both Government and contractor support personnel in the review, evaluation, and administration of all submissions for this BAA. All individuals shall certify that they will not disclose any information pertaining to this solicitation including any submission, the identity of any submitters, or any other information relative to this BAA, and shall certify that they have no financial interest in any submissions evaluated. Submission of information in response to this BAA constitutes permission to disclose information to certified evaluators under these conditions.

How do I track the progress of my submission?
Registered submitters can track the progress of their responses to any published requirement. Status is indicated behind each submission document identifier as:
- Pending (in review by the evaluation team),
- Accepted (the next phase submission has been requested), or
- Rejected (further participation in this BAA for this submittal is not requested).

Information and Tips for Proposing Under the BAA Process

1. **Available Resources from BIDS www.bids.tswg.gov**
   - Published BAA Packages are located under *Download BAAs*.
   - Submission Samples and Format are located under *Downloads; Reference Materials; Document Format*.
   - Reference Data includes the APBI briefings are located under *Downloads; Reference Materials.*
   - The **Submitter QuickCard (PDF)** is located from the Homepage banner menu bar.

2. **BIDS Help**
   - **Online Help** - provides instruction on topics related to BIDS use.
   - **FAQs** - lists user questions and official responses.
   - **Help Request** – submits an e-mail to the BIDS Help Desk.

3. <u>**BIDS Registration**</u>
   - Registration is required for submittal upload. The process is automated, similar to most web accounts. Be sure to complete all required data fields.
   - Retain *User Name* and *Password* for login and tracking identification.
   - To automatically reset a forgotten password, under **Login**, select **Forgot My Password** (the account e-mail address must be valid).

4. <u>**Visit the BIDS site early**</u>
   - Register and/or validate/update account password, e-mail address, and business information.
   - Check **Online Help** under *Internet Browsers* to verify correct browser settings.
   - Use the **BIDS Submitter Quick Card** to help navigate the BIDS website during Submission upload.

5. <u>**Read the BAA package thoroughly**</u>
   - The BAA package contains instructions, full requirement descriptions, and other information to assist in submittal preparation.
   - Download the package, read the instructions, and clarify any issues through the *BAA e-mail contact* early.

6. <u>**Document Preparation**</u>
   - <u>Include the BAA number, Document Identifier, and proposal title on each submittal</u>.
   - Use the document formats and samples provided in BIDS.
   - Ensure that each submission addresses all required elements including requirement, schedule, cost, deliverables and products, and task descriptions.
   - The submission should be clear, concise, and contain all information requested.

7. <u>**File Size Limits and Naming**</u>
   - File sizes *must not* exceed 500 Kbytes.
   - Files must be in the format described in the BAA Package.
   - File names cannot contain special characters or spaces.
   - <u>File extensions must be identified and correct</u>.
   - Files should not be password protected.
   - *A file that cannot be opened will be rejected.*

8. **Upload to the correct requirement**
   - "Shot-gunning" proposals to unrelated requirements is highly discouraged.
   - Check the submission after upload. (View *My Submissions*.)
   - Be sure that the attachment is the correct file and accessible from the website. In general, if you can see it, we can see it.

9. **Clarification of "Shall" and "Should"**
   For greater clarity and to reduce potential ambiguity, for this document, the following definitions are given:
   - **Shall**- mandatory requirements binding on the proposer.
   - **Should**- a desired action/capability.

10. **Late is Late**
    - The BIDS software does not allow uploads after the BAA due date and time.
    - All times referenced in the BAA, and used in BIDS, are in the U.S. Eastern Time Zone (either Eastern Standard or Daylight Savings Time).
    - Upload submissions early to avoid missing the deadline.
    - Under no circumstances will extensions be granted.

Project Selection and Evaluation Guidelines

CTTSO conducts rapid prototype development focused on critical multi-agency and future threat counter/antiterrorism requirements. To meet the CTTSO mission, projects are generally selected with the following criteria:

- Multi-agency requirements receive highest priority
- Rapid prototyping / Tangible product
- No duplication of effort

Submission Evaluation

Each submission (initially Quad Charts, then White Papers, and Full Proposals) will be evaluated on its individual merit and relevance to the program requirement rather than against other proposals in the same general research area. The following highlights sample evaluation criteria from the planned BAA package and are provided *for information purposes only*.

Basic Requirements
- Proposed solution meets the stated requirement
- Proposal exhibits comprehensive understanding of the problem and the requirements
- Multiple users (U.S. Government or commercial)
- Compliant with solicitation requirements

Cost
- Achievable and reasonable for work proposed
- Costs analyzed and risks addressed
- Affordable with the budget constraints

Past Performance
- Success in similar efforts
- Demonstrated ability to deliver products within budget and schedule
- Team demonstrated expertise in technical and management areas of cost, schedule, and risk

Technical Performance
- Approach is feasible, achievable, and complete
- Technical team has expertise and experience
- Effort is defined, complete, and in logical sequence
- Deliverables and products clearly defined and will meet the requirement
- Technical risks and mitigation defined and reasonable
- Government furnished equipment and materials are identified
- Intellectual property ownership addressed
- Transition to production addressed
- Other agency interest or funding documented

Schedule
- Achievable and reasonable for proposed solution
- Risk and critical elements addressed

The following program and subgroup descriptions are in alphabetical order.

Blast Effects and Mitigation (BX)
Identify, prioritize, and execute research and development efforts that satisfy interagency and international requirements to define and mitigate the potential damage mechanisms from conventional and enhanced explosive mixtures.

Chemical, Biological, Radiological, & Nuclear Countermeasures (CBRNC)
Identify, prioritize, and execute interagency chemical, biological, radiological, and nuclear combating terrorism requirements and deliver technology solutions for detection, protection, decontamination, mitigation, containment, and disposal.

Explosives Detection (ED)
Identify, prioritize, and execute research and development efforts that satisfy interagency requirements for existing and emerging technologies in explosives detection and diagnostics. Emphasis is placed on a long-term, sustained approach leading to new and enhanced technology for detection and identification of improvised explosive devices (IEDs), including vehicle-borne devices.

Explosive Ordnance Disposal/Low-Intensity Conflict (EOD/LIC) (EL)
Identify, prioritize, and execute efforts for EOD technicians and Special Operations Forces (SOF) operators with the advanced technologies and mission-focused solutions required to address current and emerging threats presented by unconventional and asymmetric warfare.

Improvised Device Defeat (IDD)
Identify, prioritize, and execute advanced research and development efforts to address interagency requirements for safely and effectively defeating improvised terrorist devices. Emphasis is placed on technologies to enhance the training and support of operational personnel in the location, identification, rendering safe, and disposal of homemade explosives (HMEs), IEDs, and other emerging terrorist threats.

CTTSO Programs and Mission Areas/Subgroups

Investigative Support and Forensics (ISF)
Identify, prioritize, and execute research and development efforts that satisfy interagency requirements for criminal investigation, law enforcement, and forensic science technology applications in terrorism-related cases.

Irregular Warfare Support (IWS)
Identify, prioritize, and execute projects for technologies and solutions to solve non-traditional challenges in combating terrorism to include doctrine, organization, training, materiel, leadership, personnel, and facilities.

Physical Security (PS)
Identify, prioritize, and execute research and development, testing, evaluation, and commercialization efforts that satisfy interagency requirements for physical security technology to protect personnel, vital equipment, and facilities against terrorist attacks.

Surveillance, Collection and Operations Support (SCOS)
Identify, prioritize, and execute research and development efforts that satisfy interagency requirements supporting intelligence gathering and special operations directed against terrorist activities.

Tactical Operations Support (TOS)
Identify, prioritize, and execute research and development efforts that enhance the capabilities of DoD and interagency special operations tactical teams engaged in identifying, attacking and eliminating terrorists.

Training Technology Development (TTD)
Identify, prioritize, and execute efforts that satisfy interagency requirements for the development and delivery of combating terrorism-related education, training, and mission performance support products and technologies.

VIP Protection (VIP)
Identify, prioritize, and execute research and development efforts that satisfy interagency requirements to provide security enhancing technology solutions for VIPs and their protection details. Particular emphasis is placed on the development of advanced tools, techniques, and guidelines for the prevention and mitigation of terrorist attacks on personnel, vehicles, and infrastructure.

Requirement Descriptions

Requirement descriptions are subject to change without notice; the published BAA package supersedes all APBI information.

R2490 Blunt Trauma from Massive Projectile Impacts and Whole Body Displacement

A significant source of injuries in a large blast attack on vehicles, ships, buildings and structures is blunt trauma caused by massive projectile impacts or acceleration into rigid bodies. The objective of this effort will be to quantitatively characterize the nature and severity of these types of injuries in sufficient detail to enable prediction of both incapacitation and medical response requirements. Of particular interest are 15 to 1000 pound projectiles and impact velocities less than 200 miles per hour.

Minimum requirements for an appropriate solution are:

Phase One
- A survey of existing relevant test data, acquisition of that data and identification of data gaps
- A review of existing blunt trauma and whole body displacement predictive methodologies and identification of capability shortfalls and validation gaps that shall be addressed to meet the state objective
- An experimental program to fill identified data gaps

Phase Two
- Development of a predictive methodology for large projectile blunt trauma injuries that will yield Abbreviated Injury Scale and 9th Edition International Classification of Diseases descriptors of resulting injuries
- Validation of the predictive methodology using a combination of experimental and epidemiological data

The deliverables from this effort will include:

Phase One
- A report summarizing the existing, relevant test data, models and algorithms, and identifying data gaps
- A final report detailing the results of the experimental program
- A paper suitable for publication in a refereed journal

Blast Effects and Mitigation / Human Lethality (BX)

Phase Two

- A predictive methodology implemented into a Windows-based application that can be incorporated into the Operational Requirements-based Casualty Assessment architecture and engineering-level modeling and simulation tools such as Vulnerability Assessment Protection Option, Integrated Munitions Effect Assessment (IMEA) and Collateral Damage Estimation Tool
- Software documentation to include a users manual and an analysts manual
- A final report providing a detailed description of the predictive methodology

R2491 Expedient Construction Techniques for Forward Fighting Positions
U.S. military and government personnel stationed in forward operating bases or facilities in high threat areas are subjected to the threat of attack. These attacks from terrorist or insurgent bombs could occur by mortars, personnel borne improvised explosive devices (PBIED), and vehicle borne improvised explosive devices (VBIED). Although methods exist to construct operating bases and facilities with blast protection, these technologies are time consuming and expensive to construct. The Government requires a new, innovative, lightweight and expedient facility for forward fighting positions. This facility may be designed as an over watch position or a sentry post but shall be able to be survivable within a high threat area.

Minimum requirements for an appropriate solution are:

- New and innovative material shall provide both ballistic and blast resistance (i.e., high strength or ductile)
- Final cost shall be minimal (i.e., similar to existing methods utilizing bastions, sandbags or metal revetments
- Lightweight design – capable of emplacement with local, minimally-skilled labor and without heavy equipment
- Final product shall be purchased as a pre-determined kit
- Material shall be able to survive within a austere environment for at least six months (taking into account heat and cold ranges, and arid to humid ranges)
- Product shall be validated with live blast testing mimicking a VBIED (200 – 800 pounds. Trinitrotoluene (TNT) Equivalent) and PBIED (5 – 35 pounds TNT Equivalent)

The deliverables for this effort will include:

- Assembly procedure for minimally skilled labor in a predetermined kit, in a configuration capable of transport via commercial and military means
- Products for in-theater testing, tracking, monthly status, and final reports

R2502 Best Practices for Mail Screening and Handling
Develop a best-practices guide on the most efficient and effective processes and procedures to handle and screen mail entering government facilities for biological, chemical, radiological, and explosive threats. This product shall be based upon the combination of a literature collection, interviews, and reviews of ongoing mail-screening operations. The guide shall identify commonalities and will include the collection, prioritization, and consensus of best-practices and lessons-learned from a group of government and industry experts. The guidelines shall have scientific underpinning for all assumptions and procedures (i.e., verifiable studies with supporting technical data) and be based on a strategic engineering, economic, and regulatory analysis of the options. Development of the guide will be coordinated among different organizations to maximize interoperability and standardization.

In particular the guide shall focus on strategies to reduce the risks of mail-borne threats to government personnel and facilities, including:

- Analysis of incoming mail streams to determine what mail streams constitute the highest risk
- Recommended pre-coordination activities with local law enforcement, first responders, and routine shippers
- The value and implementation of screening technologies
- Mail screening infrastructure
- Case studies to identify lessons-learned and generate discussion
- Communication strategies such as personnel training recommendations, including those for mail handling personnel, as well as general mail security awareness training for all employees
- Flow charts/line diagrams depicting common mail screening flow
- Contamination reduction strategies including ventilation/heating, ventilation, and air conditioning (HVAC) or other infrastructure recommendations
- Up-to-date list of indicators, identifiers, and photos of several past threats and hoaxes, with descriptions
- Post-incident recommendations such as "Evidence Do's and Don'ts" and generic reporting requirements

This effort shall establish a definitive best-practice guide book for mail screening and handling and accompanying visual aids that will be for distribution throughout the diverse offices of the U.S. Government. The users and stakeholders for the base effort include government mail room and mail

handling personnel, management officials, and building/facility security professionals.

Chemical, Biological, Radiological, and Nuclear Countermeasures (CBRNC)

R2506 Mass Decontamination System Review and Design
Conduct a needs analysis with representatives of the emergency response community to define the system requirements to achieve an optimum mass decontamination system capable of decontaminating 500 ambulatory victims and/or 50 non-ambulatory victims in one hour. The system requirements may contain, but shall not be limited to: portability, throughput, decontamination efficiency, maintenance costs, ease of operations, life cycle, decontamination solutions, flow rates, angle of incidence, spray pattern, training requirements, and severe weather capabilities.

Review current commercial-off-the-shelf (COTS) products and determine how they compare to the system requirements established during the needs analysis. Provide a ranking of the COTS systems based on best design and performance features. The Government will choose two or three systems for field evaluations. Provide recommendations on optimum mass decontamination system design.

R2507 Noise-Filtering Digital Technology for Self Contained Breathing Apparatus
Develop noise-filtering or noise-cancelling technology to allow for clear communications with individuals wearing self contained breathing apparatus (SCBAs), for use by emergency responders. The device shall improve the clarity of information provided via a microphone in the SCBA; currently it is difficult to hear or understand due to breathing sounds and competing background noise. The product shall not drastically increase the weight of a SCBA and shall not limit responder visibility. Ear plugs or headphones are not desired, as they interfere with normal operations and other communications important to a responder. The device shall not interfere with SCBA operations and shall meet the appropriate National Fire Protection Association certifications.

R2508 Single Detector for Chemical Warfare Agents and Toxic Industrial Chemicals

Develop an orthogonal detector system for detection, identification, and quantification of chemical warfare agents (CWAs) and toxic industrial chemicals (TICs) (most common International Task Force-40 threat permeators/penetrators) at Immediately Dangerous to Life or Health concentrations or lower. An orthogonal detector system uses multiple detection techniques that measure properties that are not closely related (i.e., photoionization and infrared spectroscopy) to achieve improved overall detection performance. The device shall accurately determine chemical concentrations and be operable within five minutes of setup. Sample processing time shall be less than two minutes. The system shall be field-portable, self-calibrating, battery (commercial-off-the-shelf) operated, and capable of being decontaminated. The device shall be rugged, operate after repeated vibration cycles, and withstand a drop onto concrete from a height of five feet. Devices shall be used device in Class 1/Level A Personal Protective Equipment (PPE). Buttons shall be large enough to be operable by double-gloved personnel in Class 1/Level A PPE. The system shall be optimized to ensure low cost and simplicity of maintenance and repair. The device shall reliably operate over a high dynamic temperature range (-20 to 120 degrees Fahrenheit) and humidity conditions (15 – 100% relative humidity), where it will be exposed to chemicals, salt spray, and precipitation. A capability to hot-swap batteries is required. The system shall have the capability of visual and audible alarms, a numerical display of concentration level and detected agent type, and global positioning system and radio-frequency data communications. The system shall be intrinsically safe. All detectors contained within the system shall use one graphical user interface. The system shall be a small, robust package approximately 18 x 12 inches, with a thickness not to exceed six inches. The detector shall allow the user to download data easily. Files shall be small enough to send via e-mail to reach-back capabilities. Total system weight including batteries shall be no greater than 20 pounds. The initial device cost shall not exceed $40,000. Consumables shall be less than $50 per month with scheduled maintenance at monthly intervals or greater. The orthogonal detector system shall include lower explosive limit and oxygen concentration measurements as well as specific CWA and TIC measurements.

R000 CB Unspecified Requirement

Develop new or improved technologies or emerging technological capabilities pertaining to Chemical, Biological, Radiological, and Nuclear Countermeasures (CBRNC) that may be of interest to TSWG, but were not specifically requested in this BAA and are not commercially available. Future interests shall be timely, relevant, and further the global war on terrorism.

The Government seeks concepts in the four CBRNC focus areas: detection, protection, consequence management, and information resources. Areas of particular interest include personal protective equipment, collective protection systems, and novel detection technologies for chemical and biological agents.

Medical applications (vaccines, pharmaceuticals, clinical diagnostics, and syndromic surveillance systems) and battlefield applications are not desired. These areas and other areas that do not directly relate to CBRN countermeasures will be rejected without consideration or comment.

Unspecified requirements (R000) are for proposing unique innovations that have not yet been identified by TSWG. Submissions against a particular subgroup's unspecified requirement shall be relevant to that subgroup's mission. TSWG does not budget for unspecified requirements. If the evaluation team determines that an unspecified requirement submission is promising enough to merit pursuing, funds will be identified at that point. Because proposed technologies from the unspecified requirements will be competing against proposed technologies for identified and prioritized interagency requirements, TSWG may not be able to make any awards against the unspecified requirements.

R2458 Sampling Improvements and Sub-system Development
Develop methods to more effectively and efficiently collect the nanogram quantities of explosives that are present on surfaces or in the air. The proposed device shall be capable of collecting nanogram levels of particles (both airborne and present on surfaces) and part per billion levels of explosive vapors. Sampling methods that can simultaneously collect both particle and vapor samples are particularly desired. During the development process, standard laboratory analytical instruments shall be used to assess performance. Samples shall be deliverable to an existing commercial explosive trace detector.

Submissions shall address one of these sampling requirements:

- Non-contact sampling should take no more than 10-20 seconds. The system shall be man-portable, minimize variability between operators and provide a path to effective automation in later phases (not required for the initial prototype). For air sampling systems, explain the basis for the volume of air to be sampled and the time required. The air volumes are expected to depend on the size of the item, for example: shoes versus a sea cargo container.
- Contact sampling should take 5-10 seconds for standard luggage items. Systems should offer significant improvements over current contact sampling technologies.

R2459 Fixed Site VBIED Detection
Develop a system for detection of explosives concealed in vehicles. Systems that have non-contact detectors are desired. Technologies that detect specific explosives are preferable over anomaly detectors. Systems that provide mobile screening are desired over stationary screening. Multiple sensor technologies are preferred. Proprietary interfaces or data formats are not acceptable.

The system shall comply with U.S. Military and Civilian Safety and Health Regulations (the American National Standards Institute, Occupational Safety and Health Administration, Food and Drug Administration, etc.). Power requirements are 110-220 volts power at 50-60 hertz, with field deployable conditions of operability off a back-up generator.

Submissions shall state range of explosives that are detectable. Detection of improvised devices and military ordnance (155 millimeter round) are desired. Detecting modifications to vehicles associated with IED installation are of interest.

R2460 Short Range Standoff Anomaly Detection
Proposed detector shall be able to detect anomalies carried by a person in or under clothing or in a bag and/or carrying case at ranges of no less than five meters with ten meters or greater as the objective. These include items such as cell phones, wires and triggers, knives, weapons, and explosives devices with or without shrapnel.

Devices that can detect through vehicle windshields and window glass are of interest. Systems should process and output data in real-time. It is preferable that systems provide an operator with automatic alerts on detection of anomalies.

Smaller handheld systems that can be carried by a soldier or officer are desired, larger systems are acceptable. Handheld systems shall have a maximum weight of 15 pounds including power source and a desired weight of less than eight pounds.

Handheld systems shall operate on battery power for at least six hours before needing to be recharged. Batteries shall be standard military or COTS available. Larger system power requirements are 110-220 volts power at 50-60 hertz, with field deployable conditions of operability off a back-up generator. Hot swappable battery configurations are of interest.

Systems using hazardous chemicals or electromagnetic emissions requiring special licenses to operate are not acceptable.

R2461 Advanced Explosive Trace Detectors with Improved Sampling
Develop a handheld explosives trace detector with improved sampling capability to detect and identify trace levels of both vapor and particles of explosives. The system should be based on proven detection technology. Adaptations of an existing detector that significantly improves performance are acceptable. Particle collection may use either contact or non-contact sampling; non-contact particle collection is preferred. The particle and vapor collection system may work in simultaneous or rapid sequential mode (delay between vapor and particle detection of no more than five seconds) within a combined time of 30 seconds or less.

Surface sampling systems, whether contact or non-contact, shall not harm or damage the surface of the item being screened. Optimization of sampling flow rates for both particle and vapor modes shall be documented, evaluated, and demonstrated with the final prototype.

If the system utilizes thermal desorption of collected particles or vapor, a time-temperature desorption capability shall be used to provide optimum detection without thermal decomposition of the threat material. Any gas dopant used should be carefully matched to the thermal profile of the instrument.

Proposals should provide a phased approach to include (component design, feasibility test, breadboard and/or prototype construction, and environmental hardening). Proposals should state estimated end unit price.

The proposed system shall be environmentally hardened for operation in severe environmental conditions, such as a temperature range of -20 to 140 degrees Fahrenheit and humidity from 20 - 95 percent. System shall be resistant to and operable in momentary rain, wind, and sandstorms. The system shall operate from battery power (minimum operation time on battery power of four hours) or AC power worldwide. Batteries shall be hot swappable. Total handheld system weight should not exceed seven pounds.

Prototype systems (at least three) suitable for operational testing at a government facility by military, government or contractor security screening personnel shall be delivered to the Government at the end of the contract. The awardees shall perform full test and evaluation of their systems. Government testing is in addition to the offeror's own test and evaluation.

R2462 Standoff Personnel Screening for Explosives Detection
Develop a system to remotely screen moving or stationary people. Systems should be able to track and screen individuals moving at walking speeds (less than five miles per hour). Ability to screen and track individuals in a crowd is preferable. Systems should be capable of detecting chemical effluence, vapors, or trace particles. Minimum detection of one milligram of the following: military, commercial, and HMEs are desired. Detection distances of 15 meters or greater is desired.

Automated threat detection is desired in the final prototype. Systems shall provide detection display within ten seconds, though real-time analysis is preferred. System should be usable in an explosives contaminated environment.

Candidate technical solutions need to have minimal impact on manpower requirements with respect to physical security and force protection operations. Final prototype readouts and controls shall be user-friendly with operators requiring no more than three days training for proficiency.

Explosives Detection (ED)

Proposals should provide a phased approach to include component design, feasibility test, and breadboard and prototype construction.

Power requirements are 110-220 volts power at 50-60 hertz, with field deployable conditions of operability off a back-up generator. Batteries shall be standard military or COTS available. Batteries should have minimum operating time of four hours and should be hot swappable, without loss of data or new start up time.

Systems using hazardous chemicals or electromagnetic emissions requiring special licenses to operate are not acceptable.

R2476 Fast Rope Safety
Develop a simple, low-cost, lightweight, fast rope "descender" to increase service member survivability and reduce injury while conducting fast rope insertions. The proposed mechanical system shall maintain the rapid insertion nature of fast roping with the capability to slow personnel down with minimal physical effort, especially when personnel are carrying a full combat load (minimum of 70 pounds plus body armor). The system shall be able to quickly attach pre-descent by the descending user, and easily removed post-descent by the user so as not to hinder subsequent descending personnel. In situations where a stop may be required mid-descent, the "descender" shall provide adequate braking force to hold the member in position (e.g., during emergency procedures such as helicopter inadvertently gaining altitude; bitter end of rope is routed over water, etc.). This shall be a mechanical solution that inflicts minimal wear-and-tear on ropes used. The system shall be evaluated to the following safety standards, ANSI/ASSE Z359.1-2007 and ANSI/ASSE Z359.4-2007.

R2477 Handheld Underwater Acoustic Firing Device
Develop a small, underwater acoustic transmitter and receiver, which perform reliably regardless of obstructions, to remotely arm and fire Explosive Ordnance Disposal (EOD) tools used for limpet mine neutralization. Receiver shall relay armed/unarmed status back to the transmitter. System shall be less than 10 pounds (4.3 pounds for transmitter; 4.5 pounds for transducer, including cable; 1.1 pounds for receiver) and combined transmitter, transducer, and cable dimensions shall not exceed 10 x 10 x 7 inches. Receiver dimensions shall not exceed 5.5 x 3 x1.5 inches. Threshold transmit distance shall be 900 feet with an objective of 1500 feet. The minimum receiver operating depth shall be 340 feet in sea water. The minimum transmitter operating depth shall be 3 feet in sea water. The receiver shall operate in 29 degrees F through 100 degrees Fahrenheit (-2 degrees Celsius through 38 degrees Celsius). The transmitter shall operate in 0 degrees Fahrenheit through 125 degrees Fahrenheit (-18 degrees Celsius through 51 degrees Celsius). Threshold nominal output voltage shall be 450 volts Direct Current; minimum energy 4 Joules; and the electric detonator capacity shall be straight series, 130 ohms. The system shall meet the safety requirements of MIL-STD-1911A for hand-emplaced ordnance. System shall be powered by lithium-ion CR123 batteries.

R2478 MK16 Underwater Breathing Apparatus (UBA) Mask
Develop an integrated, internal information display for the M48 dive mask, which is used with the MK16 UBA. This display shall provide Special Operations and EOD divers with "hands-free" life support equipment status information, irrespective of water turbidity. Equipment shall integrate with the current MK16 UBA, displaying both primary and secondary information on independent circuits, and should have a magnetic signature no greater than five gamma at 4.5 inches. The diver shall be able to focus on, and read the information on the display without obscuring the dive mask's and diver's normal field of view. Any mask modifications shall accommodate weapons use.

R2479 Modular Disruptor
Develop a replacement for existing EOD disruptor kits (to include the MK 2, MOD 1 .50 cal Dearmer; Joint Remote Ordnance Disruptor; Percussion Actuated Non-electric Disruptor; MK 40, MOD 0; and MK 38, MOD 0) with one kit designed to reduce size and weight for equipment load-out. The kit shall duplicate the ballistic profiles of the various disruptors it is replacing, while minimizing types of ammunition currently used (e.g., 9mm, 7.62mm, .50 Cal Electric Impulse Cartridge, .50 Cal percussion Cartridge, 12 Gauge Shotgun and PAN). The kit shall be modular, and allow the operator to select projectile velocities based on mission need. Kit shall be operable both electrically and non-electrically; work in temperatures ranging from negative 40 degrees – 140 degrees Fahrenheit; and withstand overpressures generated by the ammunition cartridge(s) used. The entire kit shall be less than 70 pounds, and fit in one pelican case.

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R2489 Robotic Actions Capture Tool

Develop a means of recording events and providing real-time diagnostics and geolocation for the MK2 Man Transportable Robotic System (MTRS), Andros F5A1 and F6A, and HD-1. The system shall incorporate a low-cost Geo-located Positioning System for positional tracking; an on-board systems diagnostic feature that will notify the operator of major system and subsystem malfunctions and analyze the overall health of the robot; and, a Radio Frequency-ID module that will allow supply and maintenance personnel to track individual robotic platforms in their inventory. The system shall allow operators to record to various electronic media for transfer to a laptop, as well as afford USB and AV connectivity. The entire system shall be capable of operating in an ECM environment without interference from (or to) deployed electronic counter-measure systems. Consideration should be given to leveraging available technologies used by the military, e.g., blue-force tracker, etc. The system shall be intrinsically safe and require minimal retrofit of existing components. The system shall use standard National Stock Number (NSN) or commercially available rechargeable batteries. System weight should not exceed five pounds and its size should not adversely affect operability of the robotic platform or add significantly to storage requirements.

R2466 Distance Measuring and Aiming System for Robotic Platforms
Develop a tool capable of performing the dual functions of measuring the distance from a disruption tool to its intended target, and provide a precise aim-point for the disruption tool. The system shall be lightweight, and mount to the weapon arm of the robot without inhibiting normal arm function. A digital readout of distance-to-target shall be available through the robot's Operator Control Unit (OCU). The system shall be capable of measuring a minimum distance of 100 yards. The system shall be able to determine a precise target aim-point from one to ten feet. The tool shall be powered by the robotic platform with minimal power draw, and afford plug-and-play integration into the robotic platform without modification of the platform's electronics package. The system shall be suitable for worldwide use any time of the year, day and night, indoors and outdoors, and shall not pose a health risk to the general public, operators, or other mission personnel, to include laser emissions. The total cost of the system shall not exceed $1,500.

R2467 LVBIED Precision Identification and Disruption Tool
Develop a tool that, given access to the rear cargo area of a commercial truck (e.g., panel truck), cargo van, or trailer, will provide a bomb technician the ability to view items that might constitute Improvised Explosive Device (IED) components (e.g., wires, switches, containers, bulk materials, etc.), regardless of placement within the vehicle. This system shall incorporate 1) a low-cost expendable video camera with zoom and low-light capability, and 2) a mechanism by which to place and detonate a small explosive charge. This system shall be deployable via a Remotec HD-1 or equivalent sized robot. The system shall be lightweight; powered by commercially available rechargeable batteries; and, offer plug-and-play operability and video transmission to the deployment system's OCU.

R2468 Manual Manipulation Tool Kit
Develop a bomb technician hand-entry tool kit consisting of items that will assist in the diagnostics, analysis, and manipulation of components within a suspect improvised device. Tools in the kit shall be non-magnetic, non-sparking, non-conductive, and operable through a minimum two-inch opening, and to a minimum depth of 24 inches. A sub-set of these tools shall include the ability to cut a minimum of 16 gauge wire; contain both locking and non-locking grippers that allow wire and internal component manipulation; have a hands-free, variable intensity and wavelength light source(s), and provide an assortment of long-reach current probes. A concise user guide shall be provided for tools contained in the kit.

R2457 Electronic Data Recovery System
Develop a digital data recovery system that provides an end-to-end capability of recovering and exporting, in a form usable by the investigator, any digital data stored in a damaged electronic device. The system shall support the removal of a memory device (an integrated circuit or 'chip') from a damaged electronic unit, read the binary data from the device and store a copy of the data for safekeeping, and assist in the transformation of any stored information into a form usable to an investigator.

Data transformation shall be effected by one of two methodologies: 1) burning the binary data into another 'chip' for installation and download into a hardware surrogate, or 2) exploration and data mining of the binary data directly via software, followed by mathematical conversion and export of any relevant data. Although the majority of these capabilities shall be directed at non-volatile flash memory devices, some non-volatile memory recovery capability shall be required for those units which still use volatile memory (such as Personal Digital Assistant-type devices).

The digital data recovery system shall employ a high quality temperature controlled hot air re-work station capable of precision computer control that can safely remove and replace 'chips' employing all commonly used surface mount device packaging styles such as plastic leaded chip carrier, thin small outline package, ball-grid array, as well as older technologies such as dual in-line pin. Safe removal and replacement means that the original 'chip' can be removed from a damaged printed circuit board, a mirror-copy of that 'chip' made, and the copy 'chip' functionally installed onto a new surrogate printed circuit board without compromising the functionality of the new unit, or the integrity of any data stored on the memory 'chip'. The digital data recovery system shall read the binary data from a comprehensive range of memory 'chips' employing all known packaging styles and burn this data into a new memory 'chip' which can be installed into a surrogate unit in order to recover the data without risking further damage to the original. The system shall be capable of being upgraded to handle new 'chips', and employing new packaging types, as memory 'chip' designs evolve. The system shall employ a precision-controlled probe station to electrically access the pins on 'chips' which have experienced packaging damage due to heat or impact.

When extracting data from obsolete equipment, direct conversion of the data from the 'chip' may be the only method available to recover usable data. The digital data recovery system shall employ software tools using advanced data mining techniques that enable the exploration of binary data obtained directly from the original memory 'chip.' Additional software tools shall permit the

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imposition of a complex memory map onto any data identified as important. This software shall enable the mathematical conversion or transformation of this data into a form usable to the investigator. The end result shall be a system that can permit a knowledgeable engineer to identify any useful data, apply a unique conversion to the data existing at any memory location or group of locations on the chip, and export this information in a form usable by other software programs for further processing and/or report generation. All software employed in the system shall run efficiently on a Windows PC when exploring large binary data files of one gigabyte or greater. The digital data recovery system shall be a combined hardware and software solution designed for use in a data recovery laboratory setting that meets moderate-level clean-room requirements. The footprint of the total system shall be based on standard electronics manufacturing workbench solutions.

R2463 Improvised Explosive Device Defeat Tools Forensic Study
Conduct a statistically well-designed study to determine what exploitable evidence remains after the use of render safe tools on an explosive device. This study will require construction of exemplar devices with varying types and quantities of forensic evidence normally associated with the construction and use of an IED. These devices would then be submitted for examination, using standard evidence examination techniques. A report will be required for each device detailing the amount and type of evidence, as well as the result of any examinations that yield either individual or class characteristics suitable for introduction into court. Standard bomb disposal tools will then be employed against these same exemplar devices. Following the employment of the tool, evidence will be collected using standardized post blast evidence collection techniques. This material would then be examined and compared against the earlier lab results for the exemplar. Examination should be able to determine the amount of forensic evidence available, degradation of material present from its original state and determine if the tool itself introduced any additional material.

This study may result in suggested changes to the procedures and techniques used to collect evidence following a render safe procedure. It should also produce a report which will allow bomb technicians to make informed judgments on the type of tool to use and what additional information and/or materials will be required to be submitted to the examining laboratory. The deliverable will be a final report documenting the results and a user's guide for post render safe evidence collection.

R2464 Trace Explosives Materials Collection
Produce a research-based trace explosive materials collection guide (TEMCG),
a trace explosive materials field guide (TEMFG) based on the research collected
for the TEMCG, and design and conduct a TEMFG seminar for implementing
the field guide into existing training.

The TEMCG is intended for use by explosive investigators. It shall contain
thoroughly researched and referenced best scientific practices for collection of
trace explosives and associated signature compounds (e.g., degradation
products) based on thorough literature searches and reviews of government
publications, as well as research and development studies. The TEMCG is
expected to include findings from field experience of organizations conducting
such work. The TEMCG shall address, at minimum, the following: post-blast
residue collection, collection of trace explosive materials that are from hard
surfaces (e.g., metal surfaces, floors, other surfaces), and soft surfaces (e.g.,
clothing, carpet). The TEMCG shall address and recommend evidence
collection methods given limitations in availability of sample containers and
collection tools in austere environments. The TEMCG shall identify and
emphasize final analytical methodologies to be applied to samples collected for
explosive identification, and address the best materials to collect, how to collect
these materials, the amount of material to collect, and how to store and transport
the material to preserve the evidence.

The TEMFG is intended for use by field collectors. It shall contain condensed,
user friendly research from the TEMCG for application in the field. The
TEMFG shall provide collectors with information to quickly identify what
materials to collect given up to three gated timeframes (e.g., less than one hour
to collect samples), how to best collect materials given limited available
resources, and how to preserve collected evidence. The field guide shall be
designed for durability, easy updating, and be suitable for storage in a cargo
pants pocket.

A scenario-based seminar shall be designed and a one-time pilot conducted to
convey to instructors the recommended uses of the TEMFG in their courses.
The seminar shall be designed for face-to-face delivery and/or for review via a
self-paced, computer-based presentation and shall not exceed four hours in
length.

The developer shall have access to or partner with Subject Matter Experts
(SMEs) in the following areas: analytical chemistry as it relates to trace
explosives detection, post-explosive debris modeling, and have field collection
experience. The developer must also utilize: extensive research capabilities,

graphic designer(s) and technical writer(s). The developer must be able to access, store, and prepare classified information up to SECRET.

R2499 Advanced Log Collector

Develop an Advanced Log Collector (ALC) system based upon the previously produced Log Collector system. The ALC system shall include all of the capabilities in the original Log Collector, which is a command line program stored on a thumb drive that gathers volatile information from a computer in the least intrusive method. The Government has intellectual property rights to the original system and will provide a copy of the system to the developer.

The following capabilities shall be included in modules in the ALC:

- Identification of all programs running in memory (RAM), both linked (as seen in the task manager) and unlinked (which have been built to run in a stealth mode). This feature shall include an option to copy out the programs which have been identified as delinked from the RAM/pagefile. In a pipe delineated file, all details about the delinked running programs shall be identified (path where run from, memory usage, etc.)
- The ability to run all features of ALC on remote computer(s) where the user would input a range of computers either by Internet Protocol (IP) address or computer name and appropriate credentials, and the program would connect to the remote computer, run and save the results on the originating computer
- Create static binaries for the Mac (OSX and higher) and Linux (RedHat) Operating Systems which will create the same output as those previously designed for the Windows Operating Systems

The modules shall perform all their capabilities on computers and servers based on Windows 2000 Professional and later versions, Macintosh Universal and Linux. The modules shall conform to guidelines of National Institute of Standards and Technology Computer Security Incident Handling Guide (Special Publication 800-61). The network portion shall direct the user to either provide a list of computers for this to be run on, or ask for an IP range. The server shall connect to each computer on the list and run the modules, saving the results to the server in an organized method and logging the time and dated started/finished. The system and its application shall be minimally intrusive on the clients. The system's design shall easily allow the future addition of new modules with advanced functions not specified in this description.

R2500 Non-Traditional Approaches to Fingerprint Development

New methods are constantly required to push latent print detection limits down as low as possible. It has recently been suggested that current latent print development technologies still miss a significant number of "weak" latent prints. Current visualization strategies employ a linear approach – i.e., one equivalent of reagent (e.g., ninhydrin) reacts with one equivalent of latent print residue (e.g., amino acid). It is possible that we are quickly approaching the upper detection limit of that approach.

Develop a non-linear approach that would involve making the latent print substrate a catalyst for amplification that would significantly improve the detection limit versus a traditional linear approach. Even if a weak print were not visible at this stage, the amplification step could visualize it. The second step, amplification, would have to be designed in such a way as to create a reagent that would utilize the product of the first step as a catalyst and then amplify that product in a non-linear fashion. Thus, a significant number of weak, previously undetected prints could potentially be visualized by such a novel approach.

The final reagent product shall be cost competitive with existing latent print visualization reagents. The product shall not pose any significant health hazards when used as intended. The reagent shall react with the more stable components of the latent print residue, for example, proteins and amino acids on porous items. The reagent shall produce strong visible and/or fluorescent prints with sufficient contrast. Background staining of the substrate shall be minimized and will not affect the print's contrast. Lipid-based approaches are limited by their relatively fast decomposition rates. Processing and development conditions shall not be extreme and shall make use of existing standard laboratory equipment. Most importantly, this reagent shall be compatible with existing processing sequences. The reagent shall be run using several sequences to determine a proper final standard operating procedure.

R2515 Indigenous Survey/Metrics Capability
Develop multiple platforms, processes, and methods to support the capability to conduct coordinated census operations, surveys, metrics and statistics aggregation activities in semi-permissive, non-permissive, and denied areas at the regional level by contracted, qualified indigenous personnel. Full Operational Capability should include, but not be limited to, the ability to conduct studies and surveys related to demography and ethnography, living conditions, health and welfare, economic status, significant environmental trends and political and/or ideological bias. Capability shall also include a specific training regimen.

R2516 International Intervention Gap Analysis Methodology
Develop modular gap analysis methodology with respect to the real versus intended outcomes of international community intervention or interest development. The methodology should be agnostic of geographic regions. Focus areas shall include international disaster relief and humanitarian assistance, religious and ideological expansion, educational and social services initiatives by state and non-state actors, economics and globalization, communications technology, international conflict by proxy, and effects of environmental trends and resource allocation.

R2517 Stakeholder or Center of Power Analysis
Present capability to conduct surveys within CENTCOM and/or AFRICOM Area of Responsibilities (AORs) considering political, ideological, economic, humanitarian, military, and educational factors in both private and public sectors. The goal is to determine the actual versus perceived stakeholders and centers of gravity and power within each named area. Identify and catalogue key influencers in each sphere of influence in these named areas of interest, including influencers with formal and informal ties to U.S. interests. Developers selected for white paper will be given specific criteria for classified submissions.

R2518 Digital Area Studies Data Collection Tool and Methodologies
Develop and test digital formatting, visual display, data manipulation, data mining and digital modeling software architecture virtually and digitally managing environmental, medical, geographic, and ethnographic data. Include capabilities to overlay historical, anthropological, cultural, census, environmental, economic and sociopolitical metrics or data points in temporal format (space and/or time) for visual interpretation. All data shall be in standard, non-proprietary formats that are amenable to XML coding and GIS tagging to facilitate interoperability with future systems.

R2519 Partner Nation Information Management Architecture

Design and develop a 'proof of concept' demonstration for the creation of an umbrella information management program specifically tailored to harness, manage, and facilitate partner nation or foreign government law enforcement and gendarmerie and/or militia forces.

R2521 Tactical/Operational Finance and Trade Anomaly Identification and Tracking

Develop the capability to identify and track illicit finance, logistics, alternative value transfer and materiel support activities based on analysis of economic data (i.e., currency flow, trade route analysis, and resource management) at the tactical and operational levels in support of ongoing DoD operations. Include the ability to identify possible schisms, vulnerabilities, and points of access for influence or interdiction of illicit finance, alternative value transfer or logistics networks.

R2523 Information Dissemination Mechanisms Studies

Analyze indigenously created information networks currently in use in one of the following geographic areas: Latin America, Sub-Saharan Africa, the Arabian Peninsula or Southwest Asia. Include non-traditional information networks, oral histories passed on within ethnically aligned societies, and iconography in hieroglyphs or billboard advertising. From these analyses, seek to identify and categorize all the existing and possible information pathways currently extant in a target population or geographic AOR; and, evaluate their utility as dissemination mechanisms for future influence operations and campaigns. Intended deliverables include a living, accessible library of area studies for easy use.

R2524 Educational Engagement Concepts

Develop a concept of operations and experimental capability to engender the creation of centers for the study of regional security in named areas of interest where linkages already exist across ethno-linguistic or economic lines. Develop educational material and academic mentorship programs to support indigenous understanding of the Rule of Law within the target population. Develop indigenous academic curricula for Rule of Law, Law Enforcement, and Governance tailored for each area targeted for influence over a period of 18 months. Conduct an independent feasibility assessment for actualizing institutions and bureaucracy necessary to a Culture of Lawfulness. Develop a concept of operations and experimental capability to provide the target population with self-actualization options to attain their "self-made" goals based on the feasibility assessment at the conclusion of the 18 month period.

R2526 Indirect Legal Analysis and Interdiction Case Studies and Methodologies

Develop and propose methods to test concepts to support the furtherance of U.S. foreign policy goals through targeted, offensive legal and judicially centered tactics and activities designed to destroy or degrade threat group capabilities and infrastructure through legal or judicial processes. Developers selected for white paper will be given specific criteria for classified submissions.

R2527 Open Source Media Analysis & Deterrence Concepts

Develop methodologies, concepts, and experimental capabilities to analyze open source media for insurgent or terrorist produced material that paints them in an unflattering light. Design concepts to use this material to discredit the reputation or legitimacy of terrorists and insurgents using culturally and/or regionally tailored means.

R2528 Route and Road Study

Conduct studies and surveys encompassing the sociopolitical, economic and military evolution of defined geographic regions through the lens of historic routes of commodity transport (i.e., silk, salt, gold, precious minerals and metals, petrochemicals, and agro-industry). Developers should identify their capabilities in specific areas that are relevant to this study. Developers selected for white paper will be given specific criteria for classified submissions.

R2512 Ultra-High Resolution Surveillance System
There is a need in both tactical and installation environments for an ultra-high resolution surveillance capability for wide-area video coverage, capable of digitally zooming to take advantage of its ultra-high resolution. System shall be capable of displaying a 180 degree field-of-view, along with four or more pinpoint areas of interest chosen by the operator as insets within the main display. Integrating software shall include motion-detection and tracking options for areas or objects of special interest.

The Ultra-High Resolution Surveillance System should 'plug-and-play' to common Department of Defense security systems and be compatible with existing platforms such as the Tactical Automated Security System and/or Integrated Commercial Intrusion Detection System. System shall be capable of storing a minimum of 12 hours of video for review to support forensic efforts. Frame rates of 1-3 frames per second shall be required with frame duration fast enough so that a vehicle moving at 100 kilometer/hour is not blurred.

Camera shall be capable of:

- Vehicle detection between 9,000-15,000 meters
- Vehicle recognition between 3,000-5,000 meters
- Vehicle identification between 1,500-2,000 meters
- Personnel detection between 4,000-7,000 meters
- Personnel recognition between 1,500-3,000 meters
- Personnel identification between 800-1,000 meters

Communication between components shall be fiber optic cable, coaxial cable, or Radio-Frequency selectable to suit the tactical situation. Cameras shall be able to be mounted on commercially available tactical tripods and masts with image stabilization. System shall be light-weight, rapidly deployable, rapidly recoverable, and simple to operate. The complete system should be man portable with desired weight of all components no greater than 60 pounds and should be packed in ruggedized cases. The system shall run from line power or tactical genertor with a minimum 12 hour battery backup.

R2465 ReproFace

Design, develop, and test an application that will re-project a face from one or more images for biometric and forensic analysis to allow users to visually compare two-dimensional images to three-dimensional models of questioned and known subjects and provide a measure of similarity between the two.

Human beings usually perform recognition and comparison tasks better by viewing questioned and known images of subjects that depict the same angle of view. Unfortunately, many images of suspects and others that are encountered in intelligence and law enforcement applications (e.g., Closed Circuit Television surveillance) involve off-axis photographs of the questioned subjects, while the known photographs are from a full-frontal angle (e.g., mugshots, passports, drivers' licenses). While some automated facial recognition systems perform pose-correction to a limited degree on off-axis, near-frontal views, such correction only works in one direction – i.e., from off-axis to frontal view, and typically only uses a single off-axis view image. This application is intended to improve the accuracy of such off-axis-to-frontal-view corrections by allowing the user to combine two or more images from multiple views. Furthermore, the application should also give the user the ability to reverse the process and create an off-axis view image from a single full-frontal image or from multiple front-view and off-axis images in order to allow for a more accurate one-to-one comparison between the questioned and known subject. For example, one might combine front and profile view mugshots to create a ¾-view depiction.

The application shall be capable of:

- Working with Windows, Mac, and/or Linux based computers and servers
- Importing and opening multiple image files of standard file type including, but not necessarily limited to, the following: TIFF, JFIF/EXIF ("jpg"), Bitmap, and PNG
- Playing and automatically extracting still images from video files of standard file type including, but not necessarily limited to, the following: AVI, QuickTime, Windows Media File, and Adobe Flash Player, as well as various MPEG types
- Automatically locating and landmarking faces in individual still images
- Allowing the user to manually define the location of a specific face in a still image or video sequence
- Permitting the user to manually identify specific landmarks (including, but not limited to, moles or scars) on the face either directly or by adjusting the application-defined landmarks

- Estimating the pose of that face and generating/hallucinating a three-dimensional model of the face including both the shape of the face and the surface texture (i.e., a "shape and texture (S&T)" or "S&T" model)
- Exporting the three-dimensional S&T model in common formats (e.g., DXF, 3ds, 3mf, etc.)
- Providing the user with the ability to view the model from any perspective and export a two-dimensional image of the face in a standard still image format (i.e., TIFF, JFIF/EXIF, or bitmap) from this perspective. As a default, the application should display and export a full-frontal view of the three-dimensional S&T model, as well as left and right profile views from a distance of ten feet (or three meters).
- Simultaneously adjusting the pose and camera-to-subject distance, while retaining the inherent resolution of the model, if the user so chooses
- Generating difference maps between individual two-dimensional projections of the questioned and known subjects

The price per unit of the final software application shall be under $5,000. The final product shall not need either long term nor short term maintenance or service to keep the application fully operating.

R000 SCOS Unspecified Requirement
Develop enhanced techniques or improvements to algorithms, tools, and technologies to assist in identifying, verifying, and tracking persons of interest without direct physical interaction in the most challenging conditions. Technologies may include: biometrics, covert sensing and tagging, unattended sensor networks, and interoperable communications systems.

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SCOS Notes

R2450 3-D Geo-Reference Mapping

Develop a three-dimensional geographically referenced mapping system that can be mounted on a vehicle and driven through any area to collect and record data. Currently there is no portable, ruggedized system with a robust user interface and software suite to allow collection of three-dimensional geospatial imagery and mapping data for use in mission planning and targeting. The desired solution should be easily installed and removed on an assortment of vehicles - both military and civilian - and should be modifiable for handheld use in a dismounted mission set. The dismounted modification should be small and light enough to be concealed by the operator. The system should be able to function in all weather conditions, outdoors as well as indoors, and collect data at operating speeds up to 55 miles per hour. The user interface is desired to have a "one button" start, and software should be simple enough that a person can operate the system with minimal training. All data collected with the system should be exportable to common GIS tools, such as, but not limited to, Google Earth and Falconview. The accuracy of the data should be exact to +/- 25 centimeters. In addition to exportability, the data should be rendered in such a way that line-of-sight calculations and modeling can be done for mission planning purposes.

R2451 Multifunctional GPS/Emergency Device

Develop an integrated, man-portable device that combines the ease of use and familiar color display of a COTS global positioning system (GPS) receiver, the real-time tracking of a standard military Blue Force Tracker, and allow for emergency communications during evasion of enemy forces or contingency operations. There is no integrated solution to meet these needs, and Soldiers are required to carry at least three separate devices to meet these requirements. The desired solution should be lightweight with a size of no more than 3 x 5 x 1 inches (objective), have an infrared communications module, be ruggedized for military use, and be operable and viewable at night with or without night vision devices.

The device shall allow for compatibility with current and future military and commercial GIS, mapping software, targeting systems, range finders; should be upgradeable with new map data by the user down to three meters (objective); include a Selective Availability Anti-Spoofing Module; and have "one-touch" location save of waypoints.

The real-time tracking should be as capable as vehicle mounted BFT systems and shall provide real-time tracking over-the-horizon (OTH) to a tactical operations center.

TOS Notes

The emergency radio function shall be as capable as the Combat Survivor/Evader Locator (CSEL) radio and be interoperable with the CSEL OTH network. In addition to a battery life of at least 24 (threshold) hours, the device should use standard military batteries.

R2452 Parachutist Navigation System
Develop a device that incorporates GPS data, map data, meteorological data, and parachute and/or free fall performance metrics for use in Military Free Fall (MFF) missions. Currently, there is no reliable capability for MFF teams to accurately navigate to small drop zones in periods of limited visibility. The possible solution will allow MFF teams to easily determine where they are and which available drop zones are reachable based on position, atmospherics, and velocity. The desired solution should be compatible with all ram-air military parachute systems and should not have an adverse impact on existing MFF unit force structure.

Specific requirements include:

- Use in the climactic categories of hot, basic, and cold as defined by Army Regulation (AR) 70-38
- Network Ready: 100% of interfaces, services, policy - enforcement controls, and data correctness, availability and processing requirements designated as enterprise - level or critical in the Joint integrated architecture (T=O)
- Locate impact point in a target box of 100 x 100 feet (T); locate impact point in a target box of 50 x 50 feet (O)
- System availability shall be high
- Shall meet MIL-STD-464A for EMI
- Be safe for operational use, storage, and maintenance
- Should be easily maintained under standard Logistical Support Activity processes, and be serviceable by unit-level Communications and Electronics personnel for field level maintenance and forwarded to the vendor for sustainment level maintenance (General/Depot)
- Certifiable for use on all DoD aircraft currently used for MFF and static line operations
- Should have no more than 30 minute mean time to repair (MTTR) to replace an entire device with a spare

R2454 Non-lethal Suicide Bomber Immobilization Device

There is a demonstrated need to develop a new and novel non-lethal capability to immobilize a potential suicide bomber in order to allow law enforcement personnel the time to protect themselves while attempting to positively identify beyond a reasonable doubt if the potential threat meets the deadly force option.

The non-lethal capability device to immobilize a suicide bomber shall work from a standoff distance of 50 (threshold) to 75 (optimal) yards and incapacitate the potential suicide bomber for 60 (threshold) to 90 (optimal) seconds. The desired end-state allows no and/or minimal reaction time for the potential suicide bomber to initiate the explosive charge without causing long-term harmful side effects or permanent damage to the subject. The non-lethal capability device shall be deployable from a distance of at least 50 feet. Devices employing an electrical charge (shock) to immobilize the suicide bomber will not be considered. The device shall not disrupt, detonate or increase the lethality of the bomb or any of its components.

R000 TOS Unspecified Requirement

Develop innovative technologies that enhance the capabilities of DoD and interagency special operations tactical teams engaged in finding, fixing, and finishing terrorists. This includes the development of capabilities for state and local law enforcement agencies to combat domestic terrorism.

Technologies may include:

- Advanced imaging systems that improve reduced-visibility imaging in all operating environments. Systems that provide high-quality images under low-light conditions to enhance tactical forces' ability to operate more effectively
- Specialized access systems that assist tactical assault forces in gaining rapid access to objectives, improve evaluation of tactical options, and support efficiency of operations, while providing force protection
- Offensive systems that enhance the effectiveness of small offensive tactical teams engaged in specialized operations
- Tactical communications systems that enhance communication capabilities and are designed for operational forces. Emphasize reducing operational load, while improving operator efficiency and mobility

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requirement submission is sufficiently promising to merit pursing, funds may be identified at that point. Since proposed technologies from the unspecified requirements will be competing against proposed technologies for identified and prioritized interagency requirements, TSWG may not make any awards against the unspecified requirements.

R2447 Optical Imaging Equipment Training

Design and develop scenario-based refresher training for optical imaging equipment in order to maintain the skill levels of the equipment operators. The training shall allow equipment operators to practice setting up the equipment, monitoring an entry control point, and maintaining the equipment during a military operation with the goal of preventing a possible suicide bomber attack. The goal of this requirement is to provide refresher training that allows equipment operators to practice using optical imaging equipment through scenario-based training that shall include, but is not limited to: providing images as seen through the equipment of person(s) wearing and not wearing Improvised Explosive Devices (IEDs), as well as, persons demonstrating the typical human behavior associated with a suicide bomber.

The training program shall consist of two modules, shall not exceed 75 total minutes in duration, and shall be created using Adobe Flash. The first module shall be unclassified and shall not exceed 45 minutes. This module shall include virtually setting up, maintaining, and servicing the equipment. Additionally, the first module shall display persons demonstrating the typical human behavior associated with a suicide bomber and images as seen through the equipment. The goal will be to have operators train on monitoring/screening a simulated entry control point using unclassified data. The second module shall be classified SECRET (i.e., accessible over SIPRNET) and shall not exceed 30 minutes. The goal of this module will be to have operators train on monitoring/screening a simulated entry control point using classified data (i.e., seeing images that would be seen on the actual equipment).

Interactive scenarios with scoring systems, goals, user feedback, etc. are anticipated. Web/computer-based modules shall include instruction, assessments and the ability to track student's progress (i.e., certificates, Learning Management Systems, etc.). The offeror shall have subject matter expertise with using optical imaging equipment and training domains, or partner with someone who does. The offeror shall identify key personnel security clearances and shall provide their organizational cage code to identify facility security clearance status in the Quad Chart.

R2481 Tactical Driving Simulation Tool

Design and develop a PC-based, software simulation tool and scenarios that pose realistic driving scenarios within the context of protective details. Training on the psychomotor skills involved in driving is not desired, but rather the tool shall provide a range of programmable scenarios that require cognitive skills in situational awareness and decision making (i.e., principles of route planning and analysis, evasive driving skills, force-on-force counter ambush tactics, vehicle dynamics during crash avoidance, and defensive driving techniques when in hostile situations). The scenarios shall include standard operating procedure drills through complex multiplayer interactions representative of a motorcade under heavy attack.

The tool shall provide a first-person, three-dimensional perspective with high-resolution graphics and with advanced control capabilities for vehicles in a multiplayer training environment. The driving conditions within the tool shall support single and multiple vehicle (motorcade) protectee driving in urban and undeveloped settings. The scenarios shall support the integrated training of a motorcade of up to five vehicles each with one PC providing a driver's perspective and up to three PCs per vehicle providing a guard position perspective for a total of 20 locally networked PCs across the simulation.

Each mobile object in the simulation shall exhibit appropriate and correct physical and behavioral characteristics. In addition, vehicles shall exhibit precise, smooth, and intuitive control by participants. User-controlled vehicles shall interact with autonomous virtual objects such as other traffic vehicles, pedestrians, and incidents (i.e., explosive devices). All vehicle physics and behaviors will be individually affected within the virtual environment including, but not limited to: roadways and terrain features; weather and night conditions; damage sustained by weapons (i.e., decreased speed, difficult handling, impaired vision, damage states); and impacts of driving actions (i.e., speed changes, backing, turning, loss of control, impact with other objects).

The simulation scenarios shall be indicative of a typical first-person perspective tactical game. For interface devices, a precision game steering wheel, foot accelerator, keyboard, and mouse shall be used to operate the vehicles within the simulation scenarios. Users shall be able to open vehicle doors, enter and exit at any seat position, and fire weapons from inside or outside a moving or stationary vehicle. Additional hardware, such as a driver's seat, dashboard, side window, etc. is not desired.

The simulation tool shall enable users to import external three-dimensional object models and terrain. Near-immediate After Action Reporting for each

session requires automatic capture and play back from any participant's perspective. A selectable timeline feature that shows key events and health and casualties, viewable from any vantage point, is desired. Real-time and after action event tagging by instructor(s) shall be possible.

The simulation tool and scenarios shall run on the Microsoft Windows platform and shall output individual results through a Shareable Content Object Reference Model (SCORM) interface. The computer systems running the simulation tool and scenarios shall be transportable in hard cases and shall be able to be locally networked together with minimal PC skills. Internet connectivity should not be mandatory for full functionality.

R2482 Game-Based Hand-Entry Trainer

Develop a game-based, training system – for use in either COTS PC or gaming console platforms such as the Wii, Xbox 360, or PS3 – that replicates the tactics, techniques, and procedures used by bomb technicians when performing "hand entry" into suspect IEDs. As a system, the offeror shall provide both a game application and an interface controller.

The game application shall be built on game theory and focus on the logic involved in selecting an approach and the targeting of components when attempting to defeat the device. The application shall provide a visual image of the "suspect package" as well as offer X-ray images of the package and its contents, be viewable from multiple angles, and provide the user with the ability to move their view to encompass all sides of the item. The application shall include a variety of virtual tools available to the technician that mimic actual hand held tools. The game application should provide increasingly difficult scenarios (both in device complexity and placement), to allow the technician to progress in their critical thinking abilities as opposed to learning by rote.

The interface controller shall provide the user with the ability to don a glove-type controller, interface with virtual tools, and manipulate objects in the gaming environment in a manner that replicates the motions used in real world scenarios. Additionally, the controllers shall incorporate some level of haptic feedback when using virtual tools or manipulating objects in the gaming environment.

The game system (application and controllers) shall leverage and be built off of COTS PC or gaming platforms. Both the application and controllers shall be available for a cost similar to other commercially available applications and controllers. The offeror shall identify key personnel security clearances and shall provide their organizational cage code to identify facility security clearance status in the Quad Chart.

R2483 Unconventional Warfare Operating Environment Distance Learning Course

Design and develop a self-paced, asynchronous distance learning (DL) course focused on Unconventional Warfare and the intersection of cross-cultural conflicts, violent confrontations, and the use of scientific concepts for understanding the motivations of combatants from other cultures and the nature of warfare as fought by different people(s). This DL course shall include, but is not limited to: social/cultural awareness, social currency, relationship/personality basis and networks, value systems, decision making styles, interpersonal skills, and cultural factors (i.e., religion, language, identity, norms, kinship/clan, etc.).

The offeror shall conduct a Training Needs Analysis, to include a gap analysis and develop an Instructional Media Design Package. Based on the results of the analysis, the offeror shall design and develop the training program and instructional materials needed to successfully implement the training program. The proposed instruction shall be learner-centered and performance-based. It shall provide immediate feedback, remedial training, and learner evaluation. The training shall include a pretest, audiovisual elements, practical exercises, checks on learning, and post-tests. The training solution shall be Interactive Multimedia Instruction (IMI) Level-2 Interactive (MIL-HDBK-29612-3A) and shall establish state-of-the-art Advanced Distributed Learning (ADL) delivery systems that are SCORM 2004-conformant, for use with Microsoft Internet Explorer browser, v6.x and a SCORM 2004-conformant LMS. The courseware shall meet the requirements for the American Council of Education for accreditation at the undergraduate level.

Three packaging versions of the web-based courseware are required.

- Version 1: One package for entire course (that is all lessons with accompanying lesson pre-test and post-tests in a single content package with a course level manifest that includes sequencing between lessons and between Shareable Content Objects (SCOs)
- Version 2: One package for each lesson in a course with accompanying lesson pre-test and post-tests (that is each lesson is packaged individually with a lesson level manifest that includes SCO sequencing)
- Version 3: One package for each lesson without sequencing (that is each lesson is packaged individually with a lesson level manifest that includes No SCO sequencing)

R2484 Squad Fires Observer Training Package

Develop a standardized training package to augment current Squad Fires Observer (SFO) training. Existing SFO training is based on instructor-led classroom and simulation-based training. The training package shall consist of three components:

- Field guides and training aids for use by SFO trainees in the field.
- Training Support Package (TSP) for use by instructors when conducting the training and simulation. The TSP topics shall include, map reading, target location, communication, surface-to-surface fires, air-to-surface fires, aircraft "talk-ons," impact adjustments, and battle damage assessment. The TSP shall also include, at minimum, interactive presentations, instructor notes, instructional techniques, supporting material, videos, references, student handouts, student assessments, etc.
- Executive-level aids for use by Commanders of the SFO describing the capabilities, limitations, and TTPs of SFO employment.

All training materials shall integrate and build upon current SFO training and current joint fires standards (JP 3-09.9).

The offeror shall conduct a Needs Analysis to analyze the training needs, audience, job tasks, and environment to determine training content and most suitable presentation format. Based on the results of the analysis, the offeror shall design and develop the training program and instructional materials needed to successfully implement the training program. The offeror shall have subject matter expertise in Fire Support, Close Air Support missions, and instructional systems design, or partner with someone who does.

R2485 Intelligence Preparation of the Environment Training and Simulation Program

Design and develop a computer-based training and simulation program for Intelligence Preparation of the Environment (IPE) operations to augment various existing training courses. The goal of this initiative is to provide operational forces with current relevant training and simulations for IPE operations and other surveillance-related high risk missions. The program shall provide advanced instruction for ground forces to penetrate, illuminate, and attack enemy networks, neutralize IEDs, and conduct close-target reconnaissance.

The computer-based training and simulation program shall explore, assess, and analyze a wide variety of operational scenarios. During the Training Needs Analysis, the offeror shall analyze topics including, but not limited to: planning and executing technical operations; tracking optical systems; close target tracking reconnaissance systems; close target tracking (video) systems; close target tracking (audio) systems; and tracking systems equipment.

The computer-based training and simulation program shall include, but is not limited to identifying potential IPE skill sets, mission indicators, use of and manufacture of specialized equipment, and related intelligence needs. The computer-based training and simulation shall be compatible with current Windows-based computers. The computer-based training modules shall include instruction, assessment, and the ability to track the student's progress. The simulation shall duplicate the conditions and elements of current IPE missions and include practical exercises of employment techniques. The classification of the scenarios employed will be scalable to the learning requirement (up to SECRET). The offeror shall have SMEs in the area of IPE and training domains, or partner with someone who does.

The computer-based training portion shall be IMI Level-2 Interactive (MIL-HDBK-29612-3A) and shall establish state-of-the-art ADL delivery systems that are SCORM 2004-conformant, for use with Microsoft Internet Explorer browser, v6.x and a SCORM 2004-conformant LMS. The offeror shall be able to process up to SECRET information. The offeror shall identify key personnel security clearances and shall provide their organizational cage code to identify facility security clearance status in the Quad Chart.

R000 TTD Unspecified Requirement
Develop training technologies and training to increase mission readiness and enhance the operational capabilities of all elements, to include both military and civilian communities, involved in combating terrorism. The technologies shall provide valuable knowledge, skills, and abilities in order to deter, defeat, prevent, protect, mitigate, and respond to terrorist threats. This includes the development of new or improved training technologies, computer-based training courses, advanced programs of instruction, delivery architectures, training aids, devices, and simulations. These training products shall support the life cycle of research and development to include: analysis, research, design, development, implementation, evaluation, verification and validation testing, and technology transition. Additionally, all proposed computer-based training solutions shall prototype and establish state-of-the-art ADL delivery systems that are Shareable Content Object Reference Model (SCORM) 2004-conformant to military and civilian personnel involved in combating terrorism.

Areas of interest include, but are not limited to:

- Mobile learning (m-learning) technologies and/or training
- Combating terrorism and training-related analyses, research, and/or evaluation
- An interagency capability for training and performance support products for knowledge acquisition and sustainment in irregular warfare concepts and doctrine

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R2493 Personal Security Vulnerability Assessment (PSVA) Tool
Research current Personal Security Vulnerability Assessment (PSVA) procedures used by the Federal protective services community and develop standardized guidelines for assessing an individual's security posture. Develop a secure web-based application that provides access to uniform checklists, guidelines, and forms that address (at a minimum) the areas discussed in DoD Instruction Number O2000.22 and its enclosures. The tool shall enable protective details to make risk-based decisions on appropriate protective measures to implement in their operations preparation, including the need, scope and size of such protective services. PSVA information shall be stored in a searchable database with various levels of access for authorized users.

R2494 Canine Body Armor
Develop a National Institute of Justice (NIJ) Level III armor solution for military and law enforcement working dogs. The armor shall be fitted in a carrier that allows for functional equipment attachments for the dogs to perform their duties. The armor shall provide chest cavity protection at a minimum without hindering movement. The armor sizing shall accommodate a range of different sizes of animals to include small (30-50 pounds), medium (50-70 pounds) and large (70-100 pounds). Overall system weight shall not exceed 10% of the canine's weight. The system shall include some form of thermal management, which could include convective cooling techniques. The armor system shall cost no more than $1500 per unit as a completed and manufacturable system. Offerors shall be able to perform work up to the SECRET level.

R2495 Ballistic Glass Hazard Study
Analyze the probability of injury resulting from spalling effects of a non-penetrating ballistic impact to "lo-spall" and standard transparent armor. Investigate the risk of injury by shard laceration to the face, eyes, and other body areas as a result of a ballistic impact. Determine the probability of injury at varying distances behind the transparent armor. The study shall investigate the differences in spall characteristics between armor cross-sections that utilize float glass, heat-strengthened glass, and chemically strengthened glass on the protected side as a function of layer thickness. A metric for determining injury probability shall be identified. If the study reveals a high risk of injury due to ballistic impact, further investigation shall include defining and developing solutions that meet operational demands. The developed solution shall provide Underwriters Laboratory (UL) – Level 8 protection.

R2496 Portable Quiet Room

Develop a portable quiet room to eliminate the casual, inadvertent eavesdropping of sensitive discussions held by official personnel. The desired room dimensions are 11.5 x 6.5 feet (interior) and 12 x 7 feet (exterior). Individual components shall be no more than 30 x 72 inches and 100 pounds each, and shall include a fitted sound proof door. The entire room shall require two persons no more than two hours to assemble.

Durable materials shall be used to withstand a high rate of assembly/disassembly cycles. Use of novel or innovative materials for sound isolation is highly encouraged. The room interior shall have a professional appearance. All materials used shall meet U.S. fire code regulations. Components shall be packaged in durable storage and/or transport cases that fit through elevators, narrow halls, and doorways. All transport cases shall be able to fit in a single transport vehicle approximately 14 x 7 x 7 feet, and standard crates for air transport.

The kit shall include a 120 volts alternating current /60 hertz electrical system with an exterior recessed AC power receptacle. The room shall support communications such as telephone and video conferencing. The telecommunications patch panel shall be recessed to prevent damage to the feed through connectors during transit. The patch panel shall be collocated with the power input and shall be as close to the bottom of the panel wall as possible.

The room shall be designed for indoor use with proper ventilation and climate control. Baffled ducts shall be used for sound mitigation. Particle-producing materials such as fiberglass shall be avoided in the HVAC supply and return ducts. The fully assembled room shall achieve a sound transmission class 40 Sound transmission class (STC 40) or higher rating with the HVAC in operation. This development is not intended to replace standard Technical Surveillance Countermeasures or to be used as a Sensitive Compartmented Information Facility.

R2497 Indoor Ballistic Wall
Develop a portable ballistic resistant wall system for indoor applications. The armor wall shall be modular and assembled in approximately 4 x 7 feet or shorter sections. A 4 x 7 feet section shall require one individual a maximum of 15 minutes to assemble. Users shall be able to connect sections to create standard walls, T-shapes, and 45 degree angles. The armor wall appearance shall be designed to blend with typical hotel furniture and décor. The system shall provide NIJ Level III protection and include appliqués to achieve NIJ Level IV protection. NIJ 0108.01 certification is required. A single section that provides NIJ Level III protection shall not weigh more than 150 pounds. The system shall be packaged in rolling cases for ground or air transport.

VIP Notes

Acronyms and Abbreviations

AC	Alternating Current
ADL	Advanced Distributed Learning
ALC	Advanced Log Collector
ANSI	American National Standards Institute
AOR	Area of Responsibility
APBI	Advanced Planning Briefing for Industry
AR	Army Regulation
ASZM-TEDA	Silver, Zinc and Molybdenum-TriEthyleneDiAmine
AV	Audio Video
AVI	Audio Video Interleave
BAA	Broad Agency Announcement
BIDS	BAA Information Delivery System
BX	Blast Effects and Mitigation
CBRN	Chemical, Biological, Radiological, and Nuclear
CBRNC	Chemical, Biological, Radiological, and Nuclear Countermeasures
CbT	Combating Terrorism
COTS	Commercial-off-the-shelf
CSEL	Combat Survivor/Evader Locator
CTTSO	Combating Terrorism Technical Support Office
CWA	Chemical Warfare Agents
DC	Direct Current
DHS	Department of Homeland Security
DL	Distance Learning
DoD	Department of Defense
DoDD	DoD Directive
DOE	Department of Energy
DOS	Department of State
DXF	Drawing Interchange Format
ECM	Electronic Countermeasures
ECP	Entry Control Point
ED	Explosives Detection
EOD	Explosive Ordnance Disposal
EOD/LIC	Explosive Ordnance Disposal/Low-Intensity Conflict
EPA	Environmental Protection Agency
EXIF	Exchangeable Image File Format
FAA	Federal Aviation Administration
FAQs	Frequently Asked Questions
FAR	Federal Acquisition Regulation
FBI	Federal Bureau of Investigation
FedBizOpps	Federal Business Opportunities website
FY	Fiscal Year
GIS	Geographic Information System
GPS	Global Positioning System
HBCU/MIs	Historically Black Colleges and Universities/other Minority Institutes
HEGA	High Efficiency Gas Absorption
HMEs	Homemade Explosives
HVAC	Heating, Ventilation, and Air Conditioning

Acronyms and Abbreviations

ID	Identification
IDD	Improvised Device Defeat
IDLH	Immediately dangerous to Life or Health
IED	Improvised Explosvie Device
IMEA	Integrated Munitions Effect Assessment
IMI	Interactive Multimedia Instruction
IP	Internet Protocol
IPE	Intelligence Preparation of the Environment
IR	Infrared
ISF	Investigative Support and Forensics
IWS	Irregular Warfare Support
JFIF	JPEG File Interchange Format
JP	Jet Propellant
LIC	Low-Intensity Conflict
LMS	Learning Management System
M-Learning	Mobile Learning
MFA	Media Feasibility Assessment
MFF	Military Free Fall
MIL-HDBK	Military Handbook
MIL-STD	Military Standards
MK	Mark
MPEG	Moving Picture Experts Group
MTTR	Mean Time to Repair
MTRS	Manually Transporatable Robotic System
NAPWDA	North American Police Work Dog Association
NFPA	National Fire Protection Association
NIJ	National Institute of Justice
NSN	National Stock Number
OASD	Office of the Assistant Secretary of Defense
OCU	Operator Control Unit
ORCA	Operational Requirements-Based Casualty Assessment
OSX	Operating System
OTH	Over-the-Horizon
PBIED	Personnel Borne Improvised Explosive Devices
PC	Personal Computer
PD	Public Diplomacy
PDF	Portable Document Format
PNG	Portable Network Graphics
PPE	Personal Protective Equipment
PS	Physical Security
PSVA	Personal Security Vulnerability Assessment
RAM	Random Access Memory
R&D	Research and Development
RDD	Radiological Dispersal Device
RF-ID	Radio Frequency-Identification
RH	Relative Humidity
RKB	Responder Knowledge Base

Acronyms and Abbreviations

S&T	Shape and Texture
SCBA	Self-Contained Breathing Apparatus
SCO	Shareable Content Object
SCORM	Shareable Content Object Reference Model
SFO	Squad Fires Observer
SME	Subject Matter Expertise
SO/LIC & IC	Special Operations/Low-Intensity Conflict and Interdependent Capabilities
SOF	Special Operating Forces
STC	Sound Transmission Class
TEMCG	Trace Explosive Materials Collection Guide
TEMFG	Trace Explosive Materials Field Guide
TIC	Toxic Industrial Chemical
TIFF	Tagged Image File Format
TNA	Training Needs Analysis
TNT	Trinitrotoluene
TOS	Tactical Operations Support
TSP	Training Support Package
TSWG	Technical Support Working Group
TTPs	Tactics, Techniques, and Procedures
U.S.	United States
UL	Underwriters Laboratory
USB	Universal Service Bus
UV	Ultraviolet
VBIED	Vehicle-Borne Improvised Explosive Device
VIP	Very Important Person
VIP	VIP Protection